US006253514B1

(12) **United States Patent**
Jobe et al.

(10) **Patent No.: US 6,253,514 B1**
(45) **Date of Patent: Jul. 3, 2001**

(54) **PRE-CURED CAULK JOINT SYSTEM**

(76) Inventors: **Mark Jobe**, 15720 NE. 70th Ct., Redmond, WA (US) 98052; **Ronald D. Tatley**, 22629 96th Ave. West, Edmonds, WA (US) 98020

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/327,046**

(22) Filed: **Jun. 7, 1999**

Related U.S. Application Data

(60) Provisional application No. 60/088,686, filed on Jun. 8, 1998.

(51) **Int. Cl.**[7] **E04B 1/68**
(52) **U.S. Cl.** **52/471**; 52/62; 52/586.2; 52/395; 52/417
(58) **Field of Search** 56/62, 586.2, 394, 56/395, 396.03, 396.06, 417, 468, 471, 573.1

(56) **References Cited**

U.S. PATENT DOCUMENTS

Re. 30,930	*	5/1982	Trachtenburg et al.	52/309.3
1,357,713	*	11/1920	Lane	52/464
2,156,681	*	5/1939	Dewhirst et al.	404/65
3,124,047	*	3/1964	Graham	404/47
3,286,425	*	11/1966	Brown	52/396.06
3,292,330	*	12/1966	Tennison	52/396.09
3,334,558	*	8/1967	Atkinson	404/57
3,339,329	*	9/1967	Berg	52/395
3,951,562	*	4/1976	Fyfe	404/68
4,067,155	*	1/1978	Ruff et al.	52/396.06
4,279,532	*	7/1981	Miller et al.	404/68
4,285,612	*	8/1981	Betti	404/68
4,463,534	*	8/1984	Crigler	52/395
4,625,485	*	12/1986	Nicholas	52/396.06
4,743,036	*	5/1988	Nicholas	277/6.45
4,761,927	*	8/1988	O'Keeffe et al.	52/396.06
4,799,345	*	1/1989	Rizza	52/396.06
4,817,963	*	4/1989	Munden et al.	277/316
4,861,043	*	8/1989	Anderson et al.	277/312
4,884,381	*	12/1989	Betti	52/741.4
4,916,878	*	4/1990	Nicholas	52/396.06
5,365,713	*	11/1994	Nicholas et al.	52/573.1

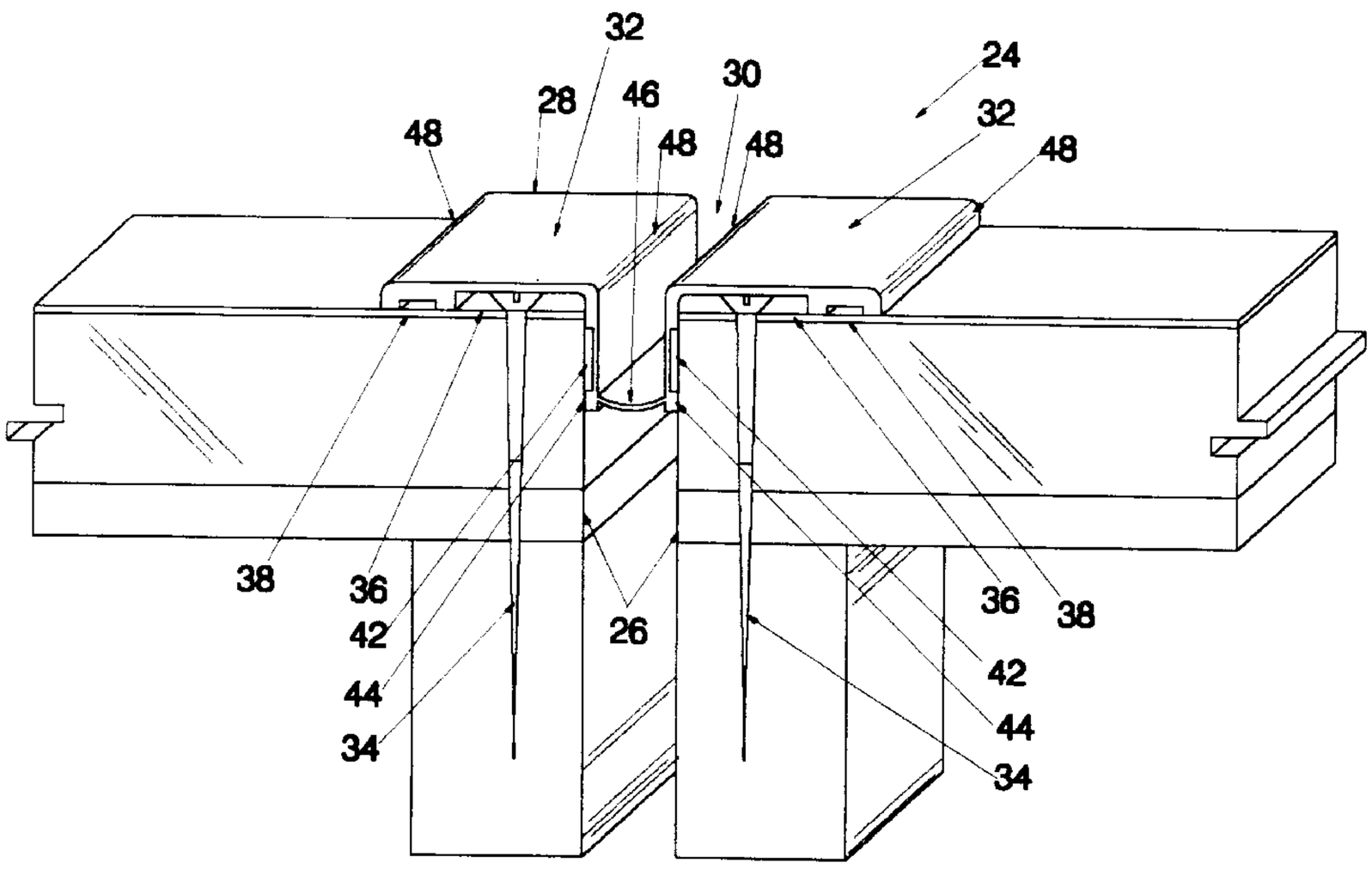
* cited by examiner

Primary Examiner—Beth A. Stephan
Assistant Examiner—Brian E. Glessner

(57) **ABSTRACT**

A pre-cured caulk joint system including a joint having a width and opposite walls, an insert being formed of a flexible material and having a length and a width, and an adhesive. The width of the insert being greater than the width of the joint, the insert being received in the joint length-wise with the insert being compressed width-wise along its length, the insert having opposite walls, with one wall facing towards one wall of the joint, and the other wall of the insert facing towards the other wall of the joint, a channel being defined by each wall of the insert, and an adhesive being received in each wall of the insert for adhering the walls of the insert to the walls of the joint. In a second embodiment, a pre-cured caulk joint system including a joint being formed by two overlapping components and having a vertex, an overlay being formed of a flexible material and being placed over the joint and covering portions of both components of the joint, the overlay having channels, and an adhesive being received in each channel of the overlay for adhering the overlay to both of the components.

1 Claim, 3 Drawing Sheets



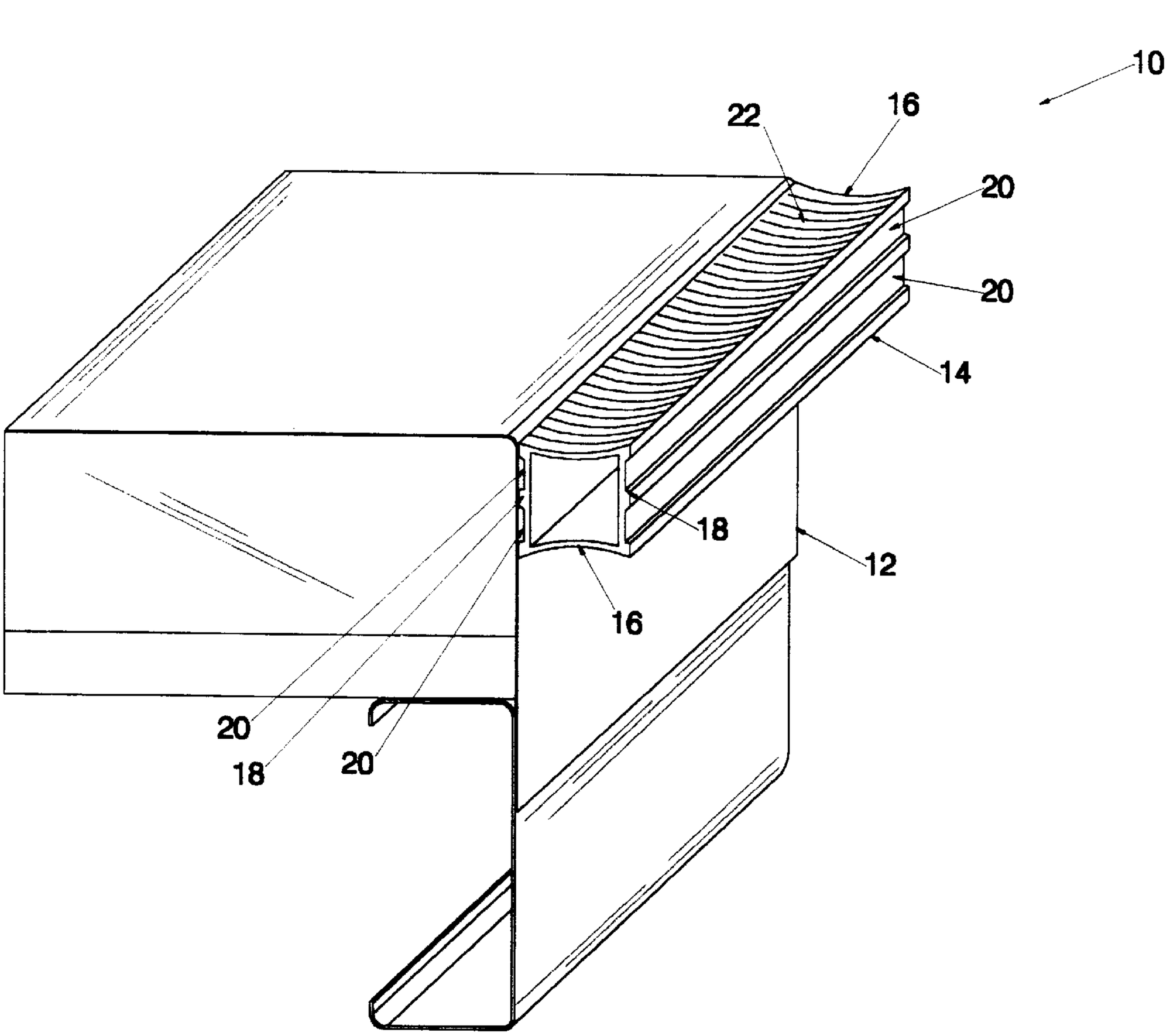


Figure 1

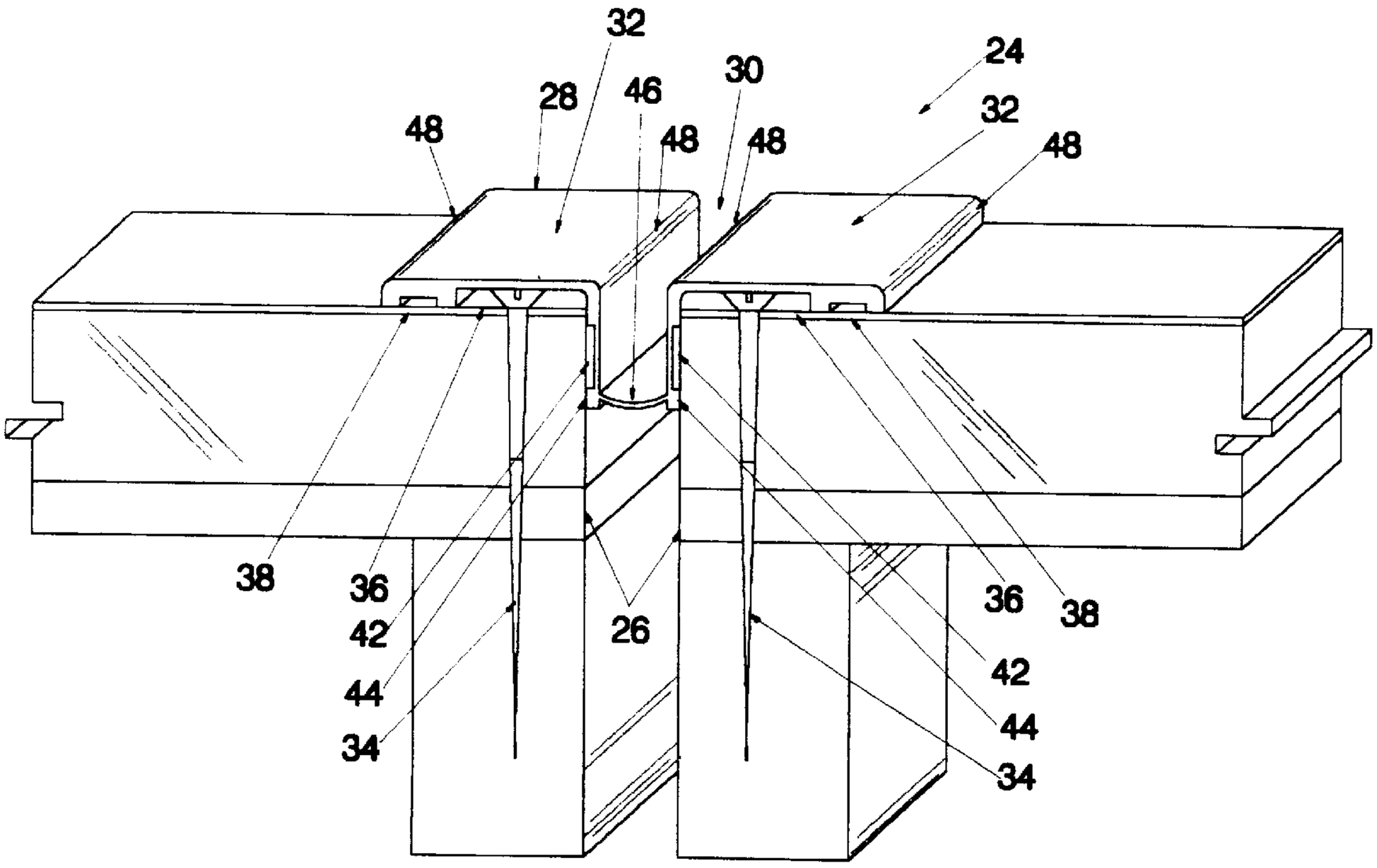


Figure 2

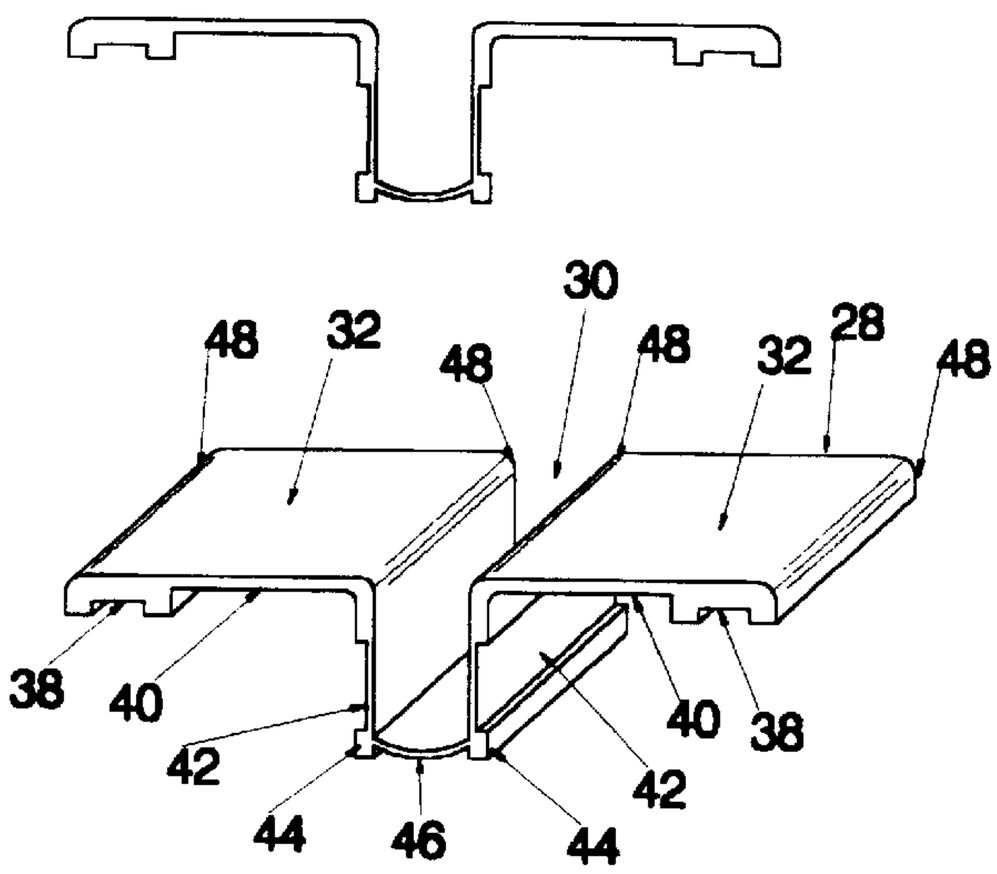


Figure 3

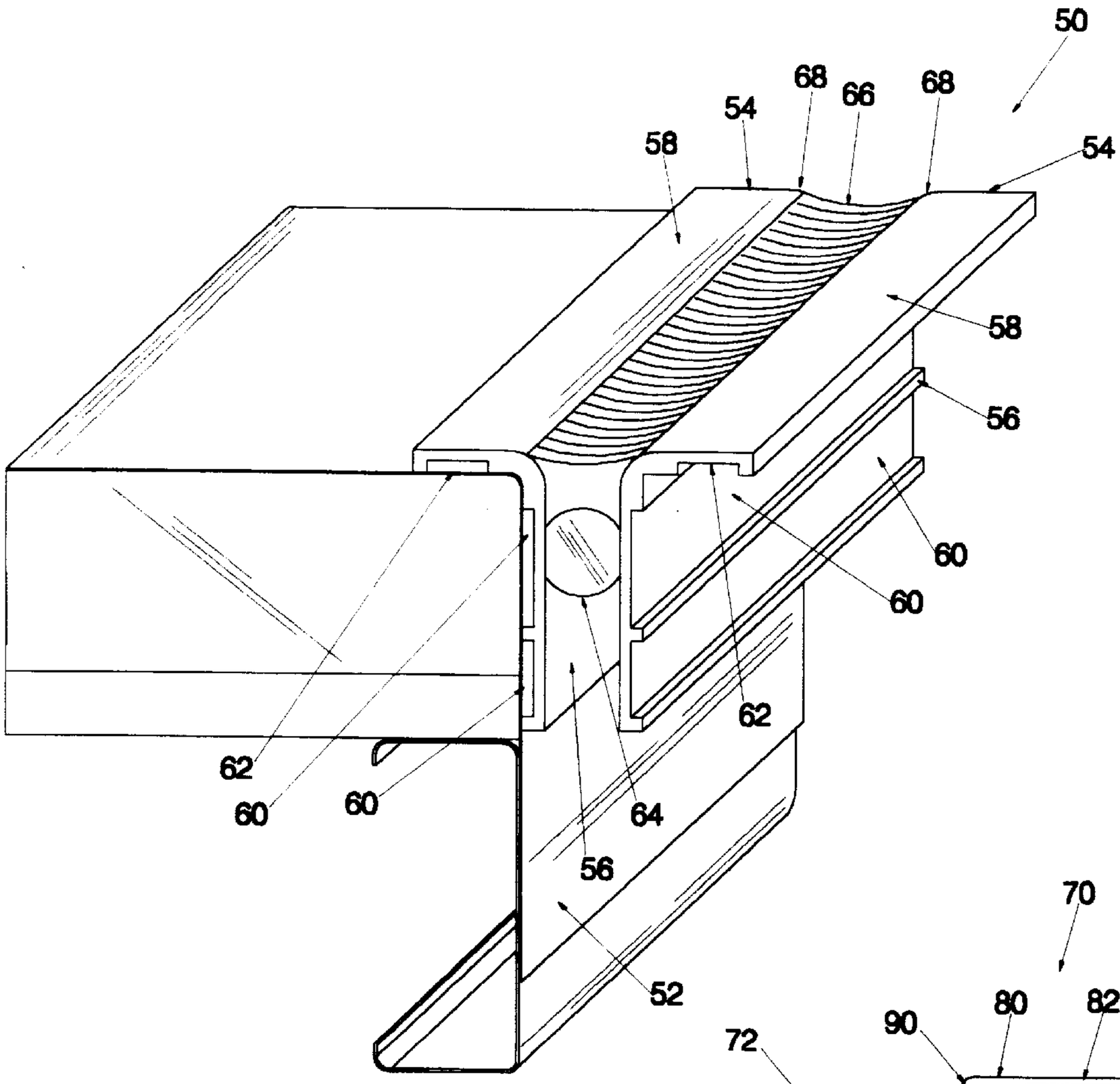


Figure 4

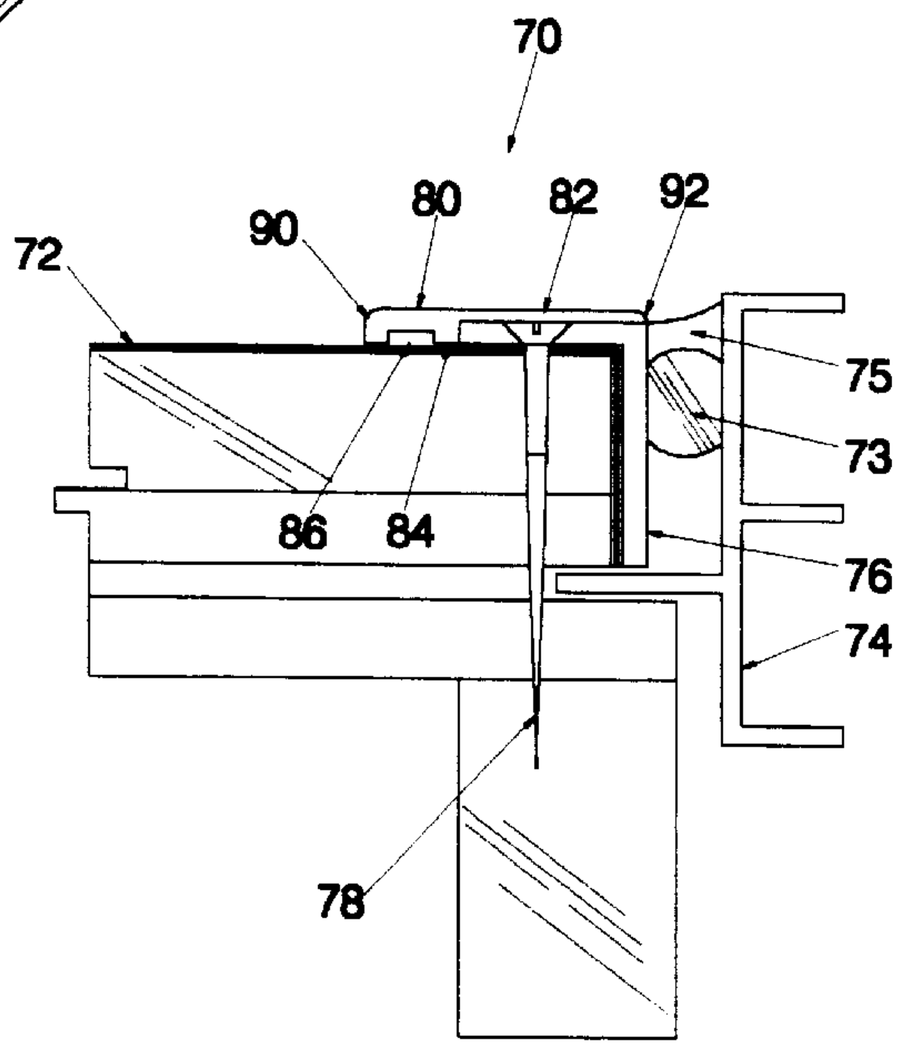


Figure 5

PRE-CURED CAULK JOINT SYSTEM

This application claims the benefit of the U.S. Provisional Application Ser. No. 60/088,686, filed Jun. 08, 1998.

FIELD OF THE INVENTION

1. Field of the Invention

The present invention relates generally to caulking, and in particular to systems for forming proper caulk joints.

2. Background of the Invention

Water damage to buildings is an old and recurring problem. The damage frequently arises from improper caulk joints. Buildings are formed from many different components or sections. Where two components or sections meet one another, there is a seam or joint at the interface. If the joint is subject to water exposure, caulk is applied along the joint for preventing water from penetrating through the joint.

Prior to application, the caulk is stored in a tube in the form of a thick, sticky substance. In applying the caulk, it is extruded to form a bead along the length of the joint. The bead should extend continuously from one edge of the joint to the other, along the joint's entire length. The caulk thereafter dries or cures, ideally forming a durable, resilient barrier that prevents water from penetrating through the joint.

Unfortunately, caulk joints usually fall short of ideal. Often joints are in the form of a channel or trough. In such joints, the caulk should extend from edge of the joint to the other, along the length of the joint. The caulk, though, should not extend to the bottom of the joint. Space between the bottom of the caulk and the joint allows for building movement due to wind, settling, and etc. If the caulk extends to the bottom of a joint, it adheres in place and tends to tear during building movement. In contrast, if the caulk adheres only to the sides of the joint, the caulk tends to stretch and compress with building movement, rather than tearing.

Construction personnel often do not realize this, and overfill joints with caulk. Overfilling caulk joints often creates other problems as well. Overfilling can result in caulk being forced behind building components in locations that cause damage. Further, overfilling may prevent building components from having sufficient ability to flex relative to each other, thus damaging these and/or other building components.

To prevent overfilling, sometimes a backer rod is inserted into a joint. The backer rod is made of an inexpensive, highly flexible material, such as foam rubber. Caulk is then applied over the backer rod. During building movement, the backer rod flexes with building movement so that the caulk does not tear.

Use of backer rods, however, does not make for trouble-free caulk joints. Personnel often do not insert the backer rod deep enough into the joint. Consequently, caulk is not applied thick enough to form a durable barrier.

With shallow joints, backer rods should not be used if the joint does not have sufficient depth for an adequate depth of caulk above the rod. In this situation, a tape or special coating may be applied. The caulk does not adhere well to the tape or coating, and thus tends to prevent tears in the caulk during building movement.

A major problem with caulking occurs in building repair. Frequently, a building will have damage caused by improper caulking. The edges of the building components forming the joint, though, have been damaged. The caulk therefore does not have a proper surface to adhere to. Thus, a proper caulk joint cannot be formed for creating a durable barrier against water. Hence, the building components must be repaired or replaced, and the joints caulked.

This is especially true for buildings employing an exterior insulated finish system, often called "EIFS." Such systems typically have exterior building surfaces that are relatively brittle, with a wire mesh interior. The edges of such surfaces are easily damaged, and absent replacement or repair of the surfaces, proper caulking is effectively prevented.

Lap joints occur where one component extends over another. For example, in the vicinity of a window there is often metal framing overlapping an exterior wall. A corner or lap joint is thus formed between the edge of the framing and the underlying structure. Fasteners generally extend through the framing and into the wall for holding the framing in place. In this situation, caulk is generally only applied along the interface between the framing and the wall. The fasteners, though, create paths for moisture to travel and penetrate into the building. This is especially problematic in buildings that have relatively brittle exterior surfaces, which are more prone to cracking.

In general, proper caulking is a time consuming, laborious, and hence costly process. With large office buildings, there are literally miles of caulking that must be performed. Additionally, the caulking process is frequently misunderstood and performed improperly, often with catastrophic results. The present invention addresses these problems.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing aspects and many of the attendant advantages of this invention will become more readily appreciated as the same becomes better understood by reference to the following detailed description, when taken in conjunction with the accompanying drawings, wherein:

FIG. **1** illustrates a perspective, partial cut-away view of a preferred embodiment of a pre-cured caulk joint system in accordance with the present invention;

FIG. **2** illustrates a perspective, partial cut-away view of another preferred embodiment of a pre-cured caulk joint system in accordance with the present invention;

FIG. **3** illustrates a view of just the insert from the system of FIG. **2**;

FIG. **4** illustrates another preferred embodiment of a pre-cured caulk joint system in accordance with the present invention; and

FIG. **5** illustrates a sectional view of another preferred embodiment of a pre-cured caulk joint system in accordance with the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG. **1** illustrates a preferred embodiment of a pre-cured caulk joint system in accordance with the present invention. Reference numeral **10** is used to generally indicate the system. The system **10** is for use with a joint defined by opposing walls **12**. For clarity, only one of the walls **12** defining the joint is shown. The system **10** is for preventing fluids, such as water, from passing through the joint.

The system **10** includes an insert **14**. The insert **14** corresponds generally in shape to a rectangular tube, with a few modifications. For one, the insert **14** includes two opposing walls **16** that are curved. In particular, the walls **16** curve concavely such that the walls bow inwards toward the insert's center. The remaining two walls **18** are substantially straight.

The straight walls **18**, however, define channels **20** along their exterior surfaces for receiving an adhesive. As illustrated, each channel **20** is a recess extending the length of the insert **14**. Preferably, there are at least two channels **20** in each of the straight walls **18**.

In use, the insert **14** is placed lengthwise in a joint. When placed in the joint, the insert should be oriented so that the insert's straight walls **18** face the walls **12** of the joint. One of the insert's curved walls **16** thus faces outwards as placed in the joint. The insert **14** is received in the joint until the outer edges of this curved wall **16** is just below the outer edges of the walls **12** of the joint.

Prior to installing the insert **14** in a joint, the straight walls **18** are preferably coated with adhesive. The channels **20** function as a reservoir for retaining the adhesive while the insert **14** is being placed in a joint. The adhesive thereafter functions to secure and seal the insert **14** to the walls **12** of the joint.

The insert **14** has a width greater than the width of the joint. The insert **14** is hence compressed widthwise along its length when installed in a joint. The insert's walls **18** therefore press against the walls **12** of the joint, functioning to more securely seal the insert to the joint's walls.

The insert **14** is formed of a flexible material, preferably, cured silicone. Silicone has good durability and resistance to ultraviolet light, and also good adhesive properties. Conventional manufacturing techniques may be employed to produce the insert **14**, such as injection molding, extrusions, or other methods. It is expected that extrusion manufacturing techniques will be the most cost effective in producing the insert **14**. The insert **14** is preferably formed having a hardness in the range from 40 to 100 duro. Most preferably the hardness is in the range from 50 to 90 duro. A hardness according to the these ranges, provides for sufficient flexibility for compressing the insert **14** for placing in a joint.

The silicone forming the insert **14**, resists compression. The insert's straight walls **18** thus press against the walls **12** of the joint, for holding and sealing the insert **14** in place. The insert's curved walls **16** provide for flexibility, and aid in resisting compression as well.

The insert's curved walls **16** additionally provide an aesthetic appearance. Building designers and architects generally prefer that any lines in a building be recessed, rather than protruding, for aesthetic reasons. The curved walls **16** arc inward, rather than outward, hence appearing as a recessed line. Moreover, the curved walls **16** mimic the appearance of a caulk joint as generally produced by prior methods of caulking joints.

The curved walls **16** each include a series of serrations **22**. Each serration **22** extends from one edge of a straight wall **18**, to the other, along a curved wall **16**. The serrations **22** divide the insert **14** into a series of segments along its length, providing enhanced longitudinal flexibility. Longitudinal flexibility provides for use of the system **10** with curved joints.

As noted above, the channels **20** in the insert **14** are for receiving an adhesive. The adhesive may be a conventional caulk. Many caulks are composed of uncured silicone. Prior methods of caulking a joint typically involve dispensing caulk from a tube in a bead along a joint. The caulk thereafter dries or cures. Since the insert **14** is preferably formed of cured silicone, preferably a silicone based caulk or adhesive is used for good bonding.

One end of an insert **14** may be formed as a sleeve, and the other as a nipple. Thus inserts **14** may be joined together, end to end, with the nipple end of one insert fitted into the sleeve end of another, as necessary, in a series to fit long joints. The same adhesive used to hold and seal the inserts **14** into a joint, could be used in joining one insert to another. (An insert **14** that is too long for a particular joint, would preferably be simply cut to the proper length for that joint).

Alternatively, separate nipples may provided for joining one insert **14** to another. Each nipple would slide approximately for one-half its length into the end of an insert **14** to couple one insert to another. Other connectors could be provided, such as a tee connector for joining inserts **14** together at the intersection of two joints. The advantage of a tee connector, is that the tee can be formed having an aesthetic appearance. In particular, the portion of a tee forming the exterior of a caulk-joint can be formed having an attractive diamond-shaped intersection at the intersection of concave surfaces. With prior caulking methods, this is difficult to achieve at the intersection of two joints.

Nipples, tees, and other connectors would preferably also be formed of cured silicone, each having a hardness within the ranges described for the inserts **14**. Silicone material for producing connectors and the inserts **14**, is manufactured, for example, by the duPont Company of Wilmington, Del., or Dow Chemical. The same adhesive as described for holding and sealing an insert **14** into a joint, would preferably be used for holding and sealing inserts **14**, tees, and/or connectors to one another.

FIG. **2** illustrates another preferred embodiment of a pre-cured joint system in accordance with the present invention. Reference numeral **24** is used to generally indicate the system. The system **24** is for use with a joint defined by opposing walls, such as walls **26**. The system **24** is for preventing fluids, such as water, from passing through the joint. The system **24** is also for preventing fluids from passing through the walls **26** in areas extending along the length of the joint.

The system **24** includes an insert **28**. The insert **28** corresponds generally to an elongated channel, extending along the length of the joint. In particular, the trough **30** of the channel is received in the joint.

Shoulder portions **32** extend outward from the upper edges of the channel's trough **30**. One shoulder **32** extends from one edge of the channel, and the other extends from the opposite edge of the channel (FIG. **3** illustrates a view of only the insert **28**). The insert's trough **30** is inserted into a joint until the insert's shoulders **32** press against the walls **26** that define the joint. The insert's shoulders **32** thus each cover a section of each of the walls **26**. The sections covered, extend in a strip along each exterior edge of the joint.

This arrangement provides advantages. Frequently, a joint will have damaged edges, such as cracks, that create pathways that fluids can penetrate. The insert's shoulders **32** extend over edges of the joint, thereby covering damaged areas along the edges of joints. The insert **28** thus provides a barrier against fluid entry in such areas of damage.

Additionally, fasteners **34**, such as screws, may penetrate into the walls **26**, along the edges of a joint. Such fasteners **34** often create pathways that fluids could penetrate. The insert's shoulders **32** also cover fasteners **34** along the joint's exterior edges. The insert **28** hence further provides a barrier against fluid entry along pathways created by fasteners **34** in the edges of a joint.

Often there is framing around the edges of a joint. FIG. **2** illustrates this as a metal strip **36** extending along each edge of the joint. FIG. **2** shows the fasteners **34** penetrating the strips **36**, and retaining the strips to the walls **26**. The insert's shoulders **32** covers the framing, i.e., metal strips **36**, creating a more aesthetic appearance.

Buildings frequently employ an exterior insulated finish system, often called "EIFS." Such systems generally include an exterior textured system. Smooth strips extending along a joint frequently do not contrast well with a textured surface. The insert's shoulders **32** function for hiding or camouflaging such strips for a more pleasing appearance. In this regard, the insert's shoulders **32** preferably include texturing. Specifically, shoulder surfaces that are exposed as installed in a joint as in FIG. **2**, are textured.

The insert **28** is preferably formed of a flexible material, most preferably cured silicone as with the insert **14** of the previously described preferred embodiment. Surfaces of the insert **28** of the present preferred embodiment under discussion, that are to be textured, are preferably coated with particles before the silicone has completely cured. The particles embed in the silicone, thus providing a textured effect. Coarser particles are used to provide a rougher texture, and finer particles for a smoother texture. The particles may be composed of any durable material, suitable for use with cured silicone, such as sand or other materials. Alternatively, the silicone may be molded to have a textured effect, such that embedded particles are not required.

In other aspects, the insert **28** is preferably produced according to the manufacturing methods for the insert **14** of the previously described preferred embodiment. Additionally, the insert **28** preferably has a hardness according to the ranges for the previously described preferred embodiment.

The insert's shoulders **32** provide more than aesthetic advantages in covering the strips **36** along the joint. More particularly, the strips **36** extend over the walls **26**, forming a lap joint. The shoulders **32** cover the lap for preventing fluids from penetrating between the strips **36** the walls **26**.

Referring to FIG. **3**, the shoulders **32** each include at least two channels **38** and **40**. The channels **38** and **40** are formed in the surfaces of the shoulders **32** that face towards the walls **26**, when the insert **28** is in use. Each channel **38** and **40** is a recess extending along the length of the insert **28**. The channels **38** and **40** extend generally parallel to one another along the insert's length.

One channel **40** in each shoulder **32** is sized and positioned for receiving and covering a strip **36** (and the exterior portion of any fasteners **34**) along the edge of the joint. That is, the channel **40** "seats" over framing so that the shoulders **32** lay substantially flat along the edges of the joint. The other channel **38** is for receiving an adhesive.

The trough **30** of the insert **28** includes channels **42** also. In particular, the insert's trough **30** is defined at least in part, by two opposing walls **44**. Each wall **44** extends substantially straight into the joint. One trough wall **44** extends along one wall **26** of the joint, with the other trough wall extending along the opposite wall of the joint.

The channels **42** are defined in the exterior sides of the trough walls **44**, i.e., in the sides of the trough walls facing the walls **26** of the joint. Each channel **42** is in the form of a recess extending along the insert's length. There is at least one channel **42** in each trough wall **44**.

Prior to installing the insert **28** in a joint, surfaces of the insert facing towards the joint walls **26**, are preferably coated with adhesive. The channels **38**, **40** and/or **42** function as a reservoir for retaining adhesive as the insert **28** is installed. The adhesive functions to seal and secure the insert **28** in place. The same type of adhesive is preferably used as that for the previously described preferred embodiment.

A curved wall **46** defines the bottom of the insert's trough **30**. The wall **46** curves such that bottom of the interior of the trough **30** is concave (conversely, the bottom of the trough's exterior is convex). The curved wall **46** provides flexibility for using the insert **28** with joints having different widths.

With narrower joints, the trough's straight walls **44** are spaced closed together as installed in a joint. The trough's bottom wall **46** accommodates this by flexing to curve extending deeper into the joint. With wider joints, the trough's straight walls **44** are spaced further apart. The trough's bottom wall **46** accommodates this by flexing to a more shallow curvature.

The concave appearance of the interior of the bottom of the trough **30**, appears as a recessed line. As discussed in connection with the previously described preferred embodiment, this is generally preferable for aesthetic reasons. Additionally, the trough's concave bottom mimics the appearance of a caulk joint as typically produced by prior methods of caulking joints.

Other aesthetic features of the insert **24** include beveling along the edges **48** of insert's shoulders **32**. More particularly, each edge of a shoulder **32** is beveled along its length. This further promotes a recessed appearance, as it eliminates sharp corners. Additionally, sharp corners are more prone to damage from impacts with objects.

FIG. **4** illustrates another preferred embodiment of a pre-cured caulk joint system in accordance with the present invention. Reference numeral **50** is used to generally indicate the system. The system **50** is for use with a joint defined by opposing walls **52**. For clarity, only one of the walls **52** defining the joint is shown. The system **50** is for preventing fluids, such as water, from passing through the joint.

The system **50** includes two inserts **54**. Viewed end-wise, each insert **54** corresponds generally in shape to an upper-case letter "L." One insert **54** is installed against one wall **52** of the joint, and the other insert is installed against the joint's opposite wall. The inserts **52** extend lengthwise along the joint's walls **52**.

Each insert **54** installs against its respective wall **52**, with the legs of the insert's L-shape embracing an edge of the joint. More particularly, the vertex of the exterior edge of the joint, nests along the vertex of the insert's L-shape.

The longer leg **56** of the insert's L-shape preferably extends into the joint. The shorter leg of the L-shape, i.e., the insert's shoulder **58**, lies against the exterior of the joint's wall **52**. The shoulder **58** of each insert **54**, thus covers a section of the exterior of the walls **52** defining the joint. The sections covered, extend in a strip along each exterior edge of the joint.

Both the longer and shorter legs **56** and **58** of each the insert's L-shape, include channels **60** and **62**, respectively. The channels **60** and **62** are each formed in the side of the insert **54** nearest a joint wall **52**, i.e., the inside of the bend of the insert's L-shape. Each channel **60** and **62** is in the form of a recess, extending the length of the insert **54**. The longer leg **56** of the insert's L-shape includes two channels **60**. The insert's shoulder **58**, i.e., the shorter leg of the L-shape, includes at least one channel **62**.

The inserts **52** are adhered in a joint in substantially the same way as in the inserts **14** and **28** of the previously described preferred embodiments. Specifically, the surfaces of the inserts **52** facing a wall **52** are coated with adhesive, and the inserts are placed into position. The channels **60** and **62** in the inserts **52** act as a reservoir for retaining adhesive as the insert **52** is installed. The adhesive thereafter dries, serving to seal and bond the inserts **52** in place.

The same type of adhesive used for the previously described preferred embodiments, is used with the inserts

52. In this regard, the inserts **52** are preferably formed of a flexible material, most preferably cured silicone. The silicone has a hardness according to the ranges for the inserts **14** and **28** of the previously described preferred embodiments. Substantially the same manufacturing methods are used to produce the inserts **52** as the inserts **14** and **28** of the previously described preferred embodiments.

The system **50** further includes a conventional backer rod **64**. That is, a lightweight, flexible rod of the type often used with prior caulking techniques, for preventing overfilling of a joint. Typically, these rods are formed of foam rubber.

The backer rod **64** is inserted into the joint, between the inserts **54**. The rod **64** should be of a diameter such that the rod is compressed when inserted into the joint between the inserts **54**. The compression should be sufficient such that the rod **64** is frictionally retained in place, but without causing severe distortion of the rod. The rod **64** is inserted into the joint so that the rod's periphery is at a depth below the shoulders **58** of the inserts **52**. This depth should be in the range corresponding to that which is considered acceptable for caulk joints formed by prior methods.

In this regard, after the rod **64** is in place, conventional caulk **66** is applied over the rod. The caulk **66** is applied according to the techniques used for prior caulking methods. Preferably, silicone caulk is used which has good durability and resistance to fluids. Further, the inserts **52** are formed of cured silicone so there should be good adherence between silicone caulk and the inserts **54**.

The system **50** provides advantages. As discussed previously, a joint will frequently have damaged edges, such as cracks, that create pathways that fluids can penetrate. This is especially problematic with structures having relatively brittle surfaces, common in buildings having an exterior insulated finish system ("EIFS"). The edges of such surfaces are prone to cracking and easily damaged due to the brittleness.

Systems **24** and **50** in accordance with the present invention, have shoulders **32** and **54** that cover joint edges. Hence, a barrier is provided against fluid penetration along damaged joint edges. Additionally, there may be fasteners inserted into a wall along joint edges that create pathways that fluid can penetrate. Shoulders **32** and **54** also extend over fasteners along the edges of a joint. Thus systems **24** and **50** also serve for preventing fluid penetration along pathways created by fasteners.

The system **50** shown in FIG. **4**, preferably includes texturing of the surfaces of the insert's shoulders **54** that are exposed, when installed a joint. The texturing is provided in the same way as the texturing for the system **24** previously discussed in connection with FIG. **2**. As discussed earlier, texturing provides aesthetic advantages when used with a joint defined by walls that include texturing.

Additionally, the shoulders **58** of the system **50** of FIG. **4**, could be modified for covering framing around joint edges, as in the system **24** of FIG. **2**. Thus, further aesthetic advantages would be provided. Other aesthetic advantages, include beveling of edges **68**. Specifically, the edge **68** of each shoulder **58** nearest the joint is beveled.

Another advantage of the system **50** of FIG. **4**, is that it may be used with joints of different widths. For narrower joints, a proportionately smaller diameter backer rod **64** is employed. For wider joints, a backer rod **64** having a proportionately larger diameter is used.

FIG. **5** illustrates another preferred embodiment of a pre-cured joint system in accordance with the present invention. Reference numeral **70** is used to generally indicate the system.

As discussed previously, frequently there is framing around a joint. FIG. **5** illustrates a joint often defined between the structure **74** for a typical window system, and a wall **72**. Framing **76** commonly surrounds the exterior corner of the wall **72** adjacent the joint. Fasteners **78**, such as screws, usually hold the framing **76** to the wall **72**. Prior methods of caulking generally include a conventional backer rod **73** inserted in the joint. Caulk **75** is then applied in the joint over the backer rod **73**.

Prior methods also often include applying a bead of caulk at the interface between the exterior of the wall **72** and the framing **76**. Specifically, the framing **76** overlaps the walls exterior, forming a corner or lap joint, which is caulked. While perhaps satisfactory in some situations, there are problems with the prior methods.

The fasteners **78** can create pathways for fluid entry. The system **70** addresses this by including an overlay **80**. The overlay **80** corresponds generally in shape to an upper case letter "L." The overlay **80** installs against the framing **76** and wall **72**, with the L-shape's longer leg **82** extending over the framing **76**. The shorter leg **84** of the L-shape nests within the lap joint between the framing **76** and the wall **72**. Preferably, the L-shape's longer leg **82** extends up to the edge of the edge of framing **76** nearest the wall **74** for the window system.

The overlay **80** includes a channel **86**. The channel **86** is in the form of a recess in the end of the shorter leg **84**. The channel **86** faces towards the wall **72**, and extends the length of the overlay **80**.

The overlay **80** is preferably formed of a flexible material, most preferably cured silicone as with the inserts **14**, **28** and **54** of the previously described preferred embodiments. The silicone forming the overlay **80** has a hardness according to the ranges described for the inserts **14**, **28** and **54** of the previously described embodiments.

The overlay **80** adheres in place using adhesive. The same type of adhesive is used as described with the inserts **14**, **28** and **54** of the previously described preferred embodiments. Prior to installing the overlay **80**, surfaces that face the wall **72** and/or framing **76** are preferably coated with the adhesive. The channel **86** in the overlay functions as a reservoir for retaining adhesive as the overlay **80** is installed.

The system **70** provides advantages. For one, the overlay **80** covers fasteners **78** in the portion of the framing **76** external to the joint between the wall **72** and the wall **74** for the window system. Thus, a barrier is provided against fluid entry through pathways created by such fasteners **78**.

Additionally, surfaces of the overlay **76** that are exposed when installed, are textured. As discussed previously, walls **72** are often textured. Smooth framing **76**, typically made of metal, does not contrast aesthetically with a textured surface. The overlay **80** covers the framing **76**, and the overlay's texturing provides a more aesthetic contrast with a textured wall **72**. The overlay **80**, included texturing, is produced in substantially the same way for the inserts **14**, **28** or **54** of the previously described embodiments.

Other aesthetic features, include rounding the external vertex **90** of the L-shape of the overlay **80**. Further, the external edge **92** of the longer leg **82** of the L-shape is beveled. When the overlay **80** is used, there is no sharp corners exposed for a more aesthetic appearance.

All of the systems **10**, **24**, **50** and **70** described herein provide advantages. Several of the systems (systems **24**, **50** and **70**) provide coverage for exterior wall sections along one or both edges of a joint. These systems are useful for minimizing building repair expenses. For instance, a build-

ing may have problems with leakage due to damaged joint edges. Prior methods of caulking typically require repair and/or replacement of building components adjoining the joint, and re-caulking to solve the problem. The systems described herein provide coverage/sealing along joint edges, avoiding the need to alter the underlying building structure to solve the problem, thereby providing cost savings.

The systems **10** and **24** of the first two described, preferred embodiments provide another advantage related to cost savings. These systems **10** and **24** reduce labor required for caulking joints over prior caulking methods. In particular, inserts **14** or **28** can be installed in long strips, avoiding the labor intensive process required in laying a suitable bead of caulk for forming a prior type of caulk joint. Further, these systems avoid problems with overfilling caulk joints, backer rods being at an improper depth, insufficient depth of caulk, and etc.

While preferred embodiments of the invention have been illustrated and described, it will be appreciated that various changes can be made therein while remaining within the scope of the invention. For example, in alternative embodiments the insert **14** of the first described embodiment could be produced having a single channel **20** in each of the straight walls **18**. In this regard, these walls **18** could be formed curving concavely inwards, rather than straight, with the curve functioning as a channel for receiving adhesive. With inserts **14**, **28** and **54** and the overlay **80** of all the preferred embodiments, the number and shape of channels could be changed.

In view of these and other alterations, substitutions and modifications that could be made by one of ordinary skill in the art, it is intended that the scope of letters patent granted hereon be limited only by the definitions of the appended claims.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A pre-cured caulk joint system comprising a joint, said joint being formed by two adjacent components and having opposing walls; an insert, wherein the insert comprises a trough-shaped center section having opposing walls, said trough walls having a top edge wherein a shoulder portion extends substantially perpendicular from each top edge such that the shoulder portions cover a portion of the joint component, said shoulder portions each comprising a channel on an underside thereof the trough walls also comprising a channel that faces opposed walls of the joint, an adhesive received in the channels that adheres the insert to the joint, with said insert being formed of a flexible material and being placed over said joint; and, said insert covering portions of both components of said joint.

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